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REMARKS

Claims 13, 14, 16, 17 and 19 were rejected under 35 USC 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as being unpatentable over International Publication WO 00/04230. The Official Action states that this international publication teaches all the limitations of the rejected claims, or at least minor modifications to obtain the claimed inventions would have been obvious to a person having ordinary skill in the art.

Reconsideration of the above rejection is respectfully requested for the following reasons.

The international publication relates in its broadest teaching to PIT emulsions comprising:

a) 2-70 wt. % C_8-C_{22}-fatty acid alkyl esters,

b) 1-40 wt. % C_8-C_{22}-fatty alcohols,

c) 10-40 wt. % C_8-C_{22}-alcohol polyglycol ether, and

d) 1-40 wt. % C_8-C_{22}-fatty acid partial glyceride

as impregnating and softening agents for papers, non-wovens and webs.

This international publication further contains one dependent claim (7), wherein the content of active ingredients is defined to be from 0.5 to 80% by weight, which in turn corresponds to water contents of 20 to 99.5% by weight. Thus, it cannot be excluded that there is some formal overlap between the water

content defined in applicants' independent claim 13 which includes as component (E) 6 to 25% by weight of water, and the above-mentioned range of 20 to 99.5% by weight. However, this international publication does not contain any clear and unambiguous disclosure that tissue papers are to be treated with water-in-oil emulsions having a water content of 6 to 25% by weight of water.

With respect to the first difference, it should be noted that tissue papers represent a specific type of paper, which can be distinguished from normal papers, by its lower basis weight (normally less than 65 g/m^2, under exceptional circumstances up to 80 g/m^2) and its much higher tensile energy absorption which accounts for properties like flexibility and drapability. Moreover, tissue papers are characterized by their high absorption capacity for liquids.

Turning now to the specific examples in the international publication, where tissue papers are treated with emulsions, it will be seen that these emulsions always contain much higher amounts of water than recited in the claims. If the weight percentages given in the tables on pages 22-24 of this international publication for the active ingredients are added, contents on the order of 30 to 40% (water contents of 60 to 70%) are calculated.

With respect to the type of emulsion, that is water-in-oil or oil-in-water, the international publication fails to provide any explicit description. The emulsions, according to this publication, are simply referred to as PIT (Phase Inversion Temperature). We know that these PIT emulsions are typically of the oil-in-water type (O/W). In this regard, applicants had previously submitted a copy of U.S. Patent No. 6,333,362 where this PIT technique is described in further detail as a means for preparing ultra-fine foaming oil-in-water emulsions.

In any event, the international publication does not contain any clear and unambiguous disclosure that within the overlapping weight contents (20 to 25 weight %), the emulsion to be used is of the water-in-oil emulsion type, as recited in applicants' claims. Rather, the opposite is the case. A water content of 20 weight % is the theoretical limit for oil-in-water emulsions, which in applicants' view also indicates that the applied international publication relates to oil-in-water emulsions. If the water content now approaches this theoretical limit of 20 weight %, stability problems can easily occur.

This would seem to confirm applicants' conclusion that the international publication does not disclose water-in-oil emulsions having a water content of 6 to 25 weight %, as is recited in applicants' independent claim 13.

If all three differences explained above are taken together, there can be no doubt that the international publication simply fails to disclose or suggest the lotioned tissue papers recited in applicants' claims.

The Official Action contends that the lower range (20% water) given for the water content of the PIT emulsion according to the international publication, the amount of water is too small to sustain a continuous phase. It is concluded that a 20% water emulsion must always be a water-in-oil emulsion as recited in applicants' claims.

Applicants respectfully disagree for the following reasons.

Applicants believe that the overall content of the international publication is to be taken into account. In this context, it should be noted that the aqueous phase is not restricted to the water content only. Thus, according to the teaching of the international publication, polyols, for instance glycerol can be added in amounts of up to 15 weight % (see page 6, lines 6 and 7). If this polyol content is added to the lower limit of water (20 weight %) as provided in the international publication, the aqueous phase may constitute up to 35 weight % of the total PIT emulsion. Other water soluble components are for instance mentioned on page 17 ("hydrotrope").

It is really no problem to sustain a continuous aqueous phase, if the same constitutes for instance 35 weight % of the total PIT emulsion. Thus, in applicants' view, there is no justification to conclude from the lower water content (20 weight %) mentioned in the international publication, that the PIT emulsion is necessarily of the water-in-oil type. Therefore, it is respectfully submitted that a water-in-oil emulsion as recited in applicants' claims is neither disclosed, nor suggested by the international publication.

There is submitted herewith a declaration of one of the inventors, namely, Dr. Stephan EICHHORN, which supports the proposition that it does not automatically follow from the low water content (20 weight %) mentioned in the international publication, that the resulting PIT emulsion is of the water-in-oil type as recited in applicants' claims. Dr. EICHHORN's declaration includes an example of a low water emulsion having a water content of slightly below 20%, namely, 19.45 weight %, which despite such low water content, represents a stable emulsion of the oil-in-water type. Although such lotion may not be covered by the generic teaching of the international publication, it clearly demonstrates that it is not justified to assume that all low water content emulsions are necessarily of the water-in-oil type, as recited in applicants' claims.

With respect to the alternative obviousness rejection advanced in the Official Action, the following should be borne in mind:

Applicants have discovered that water contents on the order of 6 to 25% achieve a suitable balance of skin care properties and mechanical strength. A relatively high water content is favorable since it counteracts the tendency of the skin to lose moisture, especially in combination with humectants. Simultaneously, it was observed that too high a water content, for instance 60 to 70 weight % as used in the example of the international publication, strongly reduces the mechanical strength of the tissue papers, since water breaks up the hydrogen bonds responsible for the cohesion of the tissue papers. In this context, it should be noted that there are webs and non-woven (e.g. polyethylene based) of the type disclosed in the international publication where water contents are not harmful. The observation that high water contents adversely affect the strength is thus specific to tissue papers as recited in applicants' claims. It is respectfully submitted that this also speaks against the obviousness rejection advanced in the Official Action.

The selection of water-in-oil emulsions brings about further advantages. Since the water represents the inner phase, less water will evaporate from the tissue. If water represents

the outer continuous phase as in PIT oil-in-water emulsions, the water will be absorbed by the tissue which disturbs the emulsion structure. Furthermore, the water-in-oil emulsion lotions tend to protect the tissue web from the water which cannot attack the hydrogen bonds that keep the tissue paper together as the water is "encapsulated" by the outer oil phase.

The Primary Examiner's kind indication of allowability with respect to claims 15, 18 and 20-25 is sincerely appreciated. However, in view of the accompanying declaration, and the foregoing remarks, therefore, it is believed that all of the pending claims, namely 13-25 patentably distinguish from the applied prior art. Reconsideration and allowance of all of the claims are accordingly earnestly solicited.

In the event that there are any questions relating to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions, so that the prosecution of this application may be expedited.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item:

- Declaration of Mr. Stephan EICHHORN

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Application of
Baumoller et al.
U.S. Patent Application Serial No. 10/051,356
Filed : January 22, 2002
For : Tissue paper penetrated with softening lotion

I, Stephan Eichhorn, Dr. ing., a citizen of the Federal Republic of Germany and residing at Tannenstrasse 25, 64579 Gernsheim, Federal Republic of Germany, declare as follows :

I am a fully trained chemist, having studied chemistry at the Technical University of Darmstadt, Federal Republic of Germany, from 1983 to 1995;

I was working within a joined research project relating to softeners and lotions for tissue paper between the Technical University of Darmstadt and SCA Hygiene Products GmbH of 68264 Mannheim, Federal Republic of Germany, from March 1995 until Mai 1996;

I joined SCA Hygiene Products GmbH of 68264 Mannheim, Federal Republic of Germany, in June 1996, since when I have been working on the development of new tissue papers treated with lotions within the research and development department of SCA Hygiene Products GmbH;

I am well acquainted with technical English;

I am one of the inventors of the invention disclosed and claimed in Application Serial No. 10/051,356 and I am therefore familiar with the field to which the said application relates, and with the Examiner's objections, according to which the instant application would be unpatentable over WO 00/04230.

Essentially, the instant application relates to a tissue paper penetrated with a lotion composition being a liquid, viscous water-in-oil emulsion comprising

20 to 75 weight % of at least one oil,

3 to 40 weight % of at least one non-ionic water-in-oil emulsifier,

optionally 0.5 to 10 weight % of at least one wax,

1 to 15 weight % of at least one humectant,

6 to 25 weight % of water,

wherein the weight % values relate to the total weight of the lotion composition.

During the examination procedure the question arised whether an oil-in-water emulsion having a water content of 20 weight% would revert into a water-in-oil emulsion because such a lotion would not be stable.

By contrast to this assertion, I wish to emphasize that WO 02/057547 of SCA Hygiene Products GmbH filed January 17, 2002 shows that an oil-in-water emulsion having a water content of 19.45 weight % is still stable and will not revert into a water-in-oil emulsion (Table 1, page 38 : water content is 100 weight% - 80.55 weight% = 19.45 weight%, in conjunction with page 38, lines 14 to 21 : conductivity measurements showed that the above lotion is of O/W type, which was heated to 40 °C and applied to a tissue paper).

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed at 68264 Mannheim, Federal Republic of Germany, this 20th day of February 2004.

Stephan Eichhorn

Table 1

Component	% by weight
Polyglyceryl poly(12-hydroxy stearate) (PGPH)	5.3
Lauryl glucoside	5.3
Glyceryl stearate (Cutina ® MD)[1]	3.0
Cocoglyceride (Myritol ® 331)[1]	30.0
Di-n-octyl carbonate (Cetiol ® CC)[1]	30.0
Citric acid [3]	0.1
Bisabolol	1.5
Glycerol	4.0
Perfume	0.35
Phenonip® [2]	1.0
Water	ad 100

[1] available from Cognis Deutschland GmbH

[2] Phenonip® is a commercially available preservative mixture (from Clariant Deutschland) and contains phenoxyethanol as well as methyl-, ethyl-, propyl- and butylparaben.

[3] Citric acid is present for pH adjustment in the commercially available (from Cognis Deutschland GmbH) emulsifier combination Eumulgin ® VL 75 (based on PGPH, Laurylglucoside, glycerol and water) which was used for preparing the lotion.

The lotion composition has a viscosity of about 3000 mPa•s at 23° C (measured with a Brookfield-RVF viscosimeter, spindle 5, 10 rpm). Conductivity measurements showed that the above lotion is of O/W type.

This lotion composition was heated to about 40° C and applied with a rotogravure device on one side of two 2-ply webs in an amount of 7 g/m² each. Then the untreated side of one 2-ply web was partially coated with adhesive (cold glue or hotmelt) and then joined together in face to face relationship with the untreated side of the other 2-ply web, thereby obtaining